

sf

Notice of Allowability	Application No.	Applicant(s)	
	10/020,871	JUNG, HYUNG SUNG	
	Examiner	Art Unit	
	Andrew C. Lee	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/4/2007.
2. ☒ The allowed claim(s) is/are 1-3, 5-14 renumbered 1-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|---|

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. David C. Oren on 4/23/2007.

The application has been amended as follows:

- Claim 1 has been amended as following:

1. An apparatus for searching a pilot signal that is received through multiple paths in a Code-Division Multiple Access (CDMA) mobile communication system, the apparatus comprising:

a first shift register bank that sequentially stores pseudo noise (PN) codes;

a second shift register bank that sequentially stores input signals, wherein the input signals of an even path are sampled in a first half PN chip and the input signals of an odd path are sampled in a following half PN chip;

first despreading means for despreading the input signals of the even path using the PN codes inputted from the first shift register bank, wherein the first despreading means despreads the input signals of the even path in parallel to output first despreading signals;

second despreading means for despreading the input signals of the odd path using the PN codes inputted from the first shift register bank, wherein the second despreading means despreads the input signals of the odd path in parallel to output

Art Unit: 2616

second despreading signals;

a coherent accumulator that accumulates the first and the second despreading signals;

energy calculation means for yielding an energy value using accumulated signals from the coherent accumulator; and

a non-coherent accumulator that determines an average value of the energy value for a prescribed time.

- Claim 9 has been amended as following:

9. A method for searching a pilot signal received using multiple paths in a Code-Division Multiple Access (CDMA) mobile communication system, the method comprising:

storing pseudo noise (PN) codes sequentially;

storing a set of input signals sequentially from an input signal to a last input signal, wherein the input signals of an even path are sampled in a first half PN chip and the input signals of an odd path are sampled in a following half PN chip;

despreading the set of input signals of the even path in parallel by using the PN codes;

despreading the set of input signals of the odd path in parallel by using the PN codes;

outputting an accumulation signal by accumulating despreaded signals of the even path and despreaded signals of the odd path;

yielding an energy value of the accumulation signal and an average energy value of

Art Unit: 2616

the energy value, wherein the average energy value is determined over a prescribed time; and

determining average mean values corresponding to PN offsets after shifting the set of input signals and repeating the despreading, the outputting and the yielding.

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance:

Claims 1 –3, 5 –14 are allowed over prior art.

The prior art of record, in single or in combination, fails to disclose the limitation of "first despreading means for despreading the input signals of the even path using the PN codes inputted from the first shift register bank, wherein the first despreading means despreads the input signals of the even path in parallel to output first despreading signals; second despreading means for despreading the input signals of the odd path using the PN codes inputted from the first shift register bank, wherein the second despreading means despreads the input signals of the odd path in parallel to output second despreading signals' as disclosed in claim 1; " despreading the set of input signals of the even path in parallel by using the PN codes; despreading the set of input signals of the odd path in parallel by using the PN codes" as disclosed in claim 9.

Additionally, all of the further limitations in claims 2 – 3, 5 – 8, 10 – 14 are allowable since the claims are dependent upon the independent claims.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Art Unit: 2616

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



WING CHAN
SUPERVISORY PATENT EXAMINER

/Andrew C. Lee/:<4/25/2007>